

What is claimed is:

1. (Currently Amended) An electrically controlled light modulator device comprising at least one cell, said cell comprising at least
5 two deformable dielectric layers which meet at an interface, at least one of said layers consisting of viscoelastic relief forming gel,
a first support electrode structure arranged on one side of the dielectric layers,
10 a second signal electrode structure arranged on the other side of the dielectric layers and opposite to the support electrode structure, and
signal means for applying signal voltage between the support and signal electrode structures to generate electric field passing
15 through the two deformable dielectric layers in order to create surface reliefs on the viscoelastic gel layer,
a third enhancement electrode structure composed of one or more separate electrode zones arranged in the proximity of the first signal electrode structure, and
20 enhancement signal means for applying enhancement signal voltage between the enhancement electrode structure and the signal electrode structure in order to locally concentrate the electric field passing through the two deformable dielectric layers
and therefore arranged to enhance the amplitude of the
25 deformation of the viscoelastic gel layer.

2. (Currently Amended) The device according to the claim 1, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged substantially in a single common
30 plane respect to each other and facing the opposite support electrode structure.

3. (Currently Amended) The device according to the claim 2, wherein within a cell the electrode zones of the signal electrode structure and
35 the electrode zones of the enhancement electrode structure are positioned in an alternating manner so that an individual signal

electrode zone is located between at least two adjacent enhancement electrode zones.

5 4. (Currently Amended) The device according to the claim 1, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged in substantially different planes with respect to each other and with respect to the opposite support electrode .

10 5. (Currently Amended) The device according to claim 1, wherein the enhancement signal voltage is arranged to be negative compared to the potential defined by the support electrode structure.

15 6. (Currently Amended) The device according to claim 1, wherein the enhancement signal voltage is arranged to be pulsed during or after the switching off period of said cell in order to actively enhance the relaxation of the viscoelastic gel layer.

20 7. (Currently Amended) The device according to claim 1, wherein said enhancement electrode structure is an opaque structure lithographically generated on the surface of a conductor plated substrate.

25 8. (Currently Amended) The device according to claim 1, wherein said enhancement electrode structure is an optically transparent structure formed of indium tin oxide.

30 9. (Currently Amended) The device according to claim 1, wherein an electrically insulating layer is arranged on one or both sides of said enhancement electrode structure.

35 10. (Currently Amended) The device according to claim 1, wherein the material of the viscoelastic relief forming gel is selected from the following group: polymer silicone compound, oil.

11. (Currently Amended) The device according to claim 1, wherein the elastic modulus of the material of the viscoelastic relief forming gel is selected to have a lower value in order to enhance the viscoelastic material flow during the on and off switching of a cell.

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12. (Currently Amended) The device according to claim 1, wherein multiple cells are arranged to form a display device.

10 13. (New) A display device comprising a plurality of electrically controlled light modulator devices, said light modulator devices comprising at least one cell, said cell comprising at least

two deformable dielectric layers which meet at an interface, at least one of said layers consisting of viscoelastic relief forming gel,

15 a first support electrode structure arranged on one side of the dielectric layers,

a second signal electrode structure arranged on the other side of the dielectric layers and opposite to the support electrode structure, and

20 signal means for applying signal voltage between the support and signal electrode structures to generate electric field passing through the two deformable dielectric layers in order to create surface reliefs on the viscoelastic gel layer,

25 a third enhancement electrode structure composed of one or more separate electrode zones arranged in the proximity of the first signal electrode structure, and

30 enhancement signal means for applying enhancement signal voltage between the enhancement electrode structure and the signal electrode structure in order to locally concentrate the electric field passing through the two deformable dielectric layers and therefore arranged to enhance the amplitude of the deformation of the viscoelastic gel layer.

35 14. (New) The device according to the claim 13, wherein within a cell the enhancement electrode structure and the signal electrode structure

are arranged substantially in a single common plane with respect to each other and facing the opposite support electrode structure.

- 5 15. (New) The device according to the claim 14, wherein within a cell the electrode zones of the signal electrode structure and the electrode zones of the enhancement electrode structure are positioned in an alternating manner so that an individual signal electrode zone is located between at least two adjacent enhancement electrode zones.
- 10 16. (New) The device according to the claim 13, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged in substantially different planes with respect to each other and with respect to the opposite support electrode .
- 15 17. (New) The device according to claim 13, wherein said enhancement electrode structure is an optically transparent structure formed of indium tin oxide.
- 20 18. (New) The device according to claim 13, wherein the enhancement signal voltage is arranged to be pulsed during or after the switching off period of said cell in order to actively enhance the relaxation of the viscoelastic gel layer.